

# Cape Fear Skies

*The Official Newsletter of the  
Cape Fear Astronomical Society  
Wilmington, North Carolina*

*A Member Society of the Astronomical League*

Volume 22 no. 7



July 2007

[www.capefearastro.org](http://www.capefearastro.org)



*This Month's Meeting –  
Sunday, July 1, 2007  
Hugh MacRae Park Shelter #2*

The business meeting of  
the Cape Fear Astronomical Society  
will begin at 7:00 pm.  
The general meeting will begin at 7:45 pm.



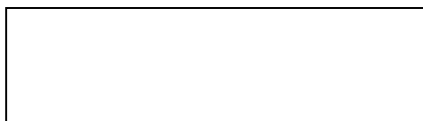
**Gastronomy!**

Please join us for dinner before the meeting at La Costa  
Mexican Restaurant on Oleander Dr at 5:15pm!



## **CAPE FEAR SKIES**

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Wilmington, NC 28411



# Cape Fear Astronomical Society

Meeting minutes by Tom Jacobs acting CFAS Secretary

## Meeting Minutes for June 3<sup>rd</sup> CFAS Meeting

The following are the minutes for the June 3, 2007 general meeting of the Cape Fear Astronomical Society. Secretary Letisha McLaughlin being out of town, these minutes have been taken by member Tom Jacobs.

This meeting was held at the home of member Rich Williams; on Upton Ct. in Wilmington. The meeting began at 1915; president Ronnie Hawes presiding.

## Officer's Report and Old Business

Ben Steelman reported that "We are solvent". His informal treasures report indicated that we have around \$1800 in the checking account. The CD and Passbook accounts have not been updated this quarter.

Ronnie made note of a new television series "The Universe" running on The History Channel. The first episode had been aired during the previous week. Episodes air on either Tuesday or Wednesday evenings.

There was a short discussion of David Levy's feature on 'dark matter; dark energy and the fate of the universe' in today's Parade magazine.

There was also a short discussion of the upcoming Green Bank Star Quest star party. Which is scheduled to start on July 4th.

Ronnie informed the membership that the high school student he had been helping with a project on light pollution, Drew Scarp (sp?), has completed his project. He will present his program to the CFAS sometime in the future.

## New Business

It was decided to add Clint North to the listserver distribution so that he would have some idea when we were using the Yamacraw site. Ric Longren also plans to see if Mr. North would rather have his copy of Cape Fear Skies delivered electronically rather than via US Mail.

Jonathan Guetta reported that he has decided to seek a new vendor for the club clothing. He thinks that starting over is the wiser course after the problems he has had with his first choice vendor.

Loss of UNCW meeting room.

There was a long discussion about how to react to the loss of using Morton Hall.

The first item in the discussion was the lack of a definitive answer from UNCW about our using Morton Hall. It was decided to press for an answer on our using some location on the UNCW campus.

\* Action Item.

Ronnie will continue to call his contacts with UNCW until we receive a definite answer on our using facilities at UNCW.

The discussion continued. One of the points made during the discussion was that using a restaurant as a meeting place would be problematic. It would take a lot of setup time to prepare to do the programs that we have been doing in the past.

One restaurant that was mentioned was Wilson's. Other places that would be listed as possible candidate for new meeting locations included:

Cape Fear Community College.

New Hanover County Libraries.

New Hanover County Schools.

The Cape Fear Museum.

Ahec (area health education center [I think] of NHCRMC)

It was decided not to form a site search committee. Instead, we will try to coordinate our search activities as a committee of the whole using our CFAS listserver.

We do not want multiple members making multiple contacts with the same possible locations. So please discuss any actions you are thinking about taking with the membership on the listserver before you act. Yes this is going to slow down our search. The reason for slowing down the search was to present as positive an image of the society as we can.

\* Action Item.

Everyone is to discuss any action that they propose to take with the rest of the membership via the listserver.

We had some discussion of what characteristics we need to look for in a new meeting locations. During the discussion we agreed that the following characteristics are important for selecting a new meeting location: cost; facilities; location; date. We are accepting that changing location might also force us to change our meeting time and location.

There was also a discussion on what the group felt was an affordable cost to pay for a new meeting location. On costs of a new meeting location, we came to an agreement that we would be willing to make some nominal payment for a new meeting site. There was a consensus that we would like to limit the nominal payment to something around \$100 per year. This consensus formed after a discussion of our income and expenses as the society is currently structured.

There was a discussion of whether we should contact Bryan Davis, of UNCW, about possible assistance through the physics department. It was decided to take no action on this item until Ronnie reports back from his contacts at UNCW

\* Action Item.

Jonathan is going to contact Cape Fear Community College about the possibility of meeting space there.

\* Action Item.

Terry is going to contact Ahec to see if we might qualify to use their facilities.

\* Action Item.

Ben is going to contact NHC public library to see if they have any facilities that we might be able to use.

\* Action Item.

Ben is going to contact NHC public schools to see if they have any facilities that we might be able to use.

\* Action Item.

Ronnie is going to contact the Cape Fear Museum to see if they have any facilities that we might be allowed to use.

\* Action Item.

Bob is going to check with the Temple of Israel to see if they have any facilities, which we might be allowed to use.

It was discussed and agreed that if we have not heard back from UNCW by mid June, we need to make arrangements for our July meeting to be elsewhere. As the 4th of July is on a Wednesday we will stick to the regular first Sunday of the month for the July meeting.

\* Next months meeting will be on July 1, 2007 at a place as yet not determined. Pay attention to the list server for more information as it becomes available.

It was suggested that we might try using a county park for the July meeting. With that thought in mind Jonathan agreed to reserve a shelter at Hugh McCray Park. He felt that it was wise to make this reservation ASAP. Then if we find some other location for the meeting to cancel this reservation.

\* Action Item.

Jonathan to reserve a shelter at Hugh McCray Park for July 1, 2007.

There was also some discussion of doing a society picnic for the July meeting. This idea was rejected. Instead a picnic will be planned for the August meeting. The August meeting is scheduled for Sunday August 5, 2007.

\* Action Item.

Tom and Bob will make plans and arrangements for an August meeting picnic.

Ronnie suggested doing another telescope clinic perhaps in concert with the Ingram planetarium. This activity will be delayed until sometime during the fall.

There was also some discussion of the need to update our web site and to produce new society flyers. These activities will be postponed until after we know where our future meetings will be held.

### Observing Report

There was a very successful observing session on May 11 at the holly shelter airstrip. Many stayed to 1 am. Some stayed until after 4 am; when they watched the moon rising through the fog. Earlier in the evening many observed Io rising away from the disk of Jupiter.

On May 27 there was an observing session at the Yamacraw site. Objects observed included: M3; M13; M44; M81; M82; Alcor and Mizar; Jupiter with 4 moons; Saturn with 2 moons.

Mitch shared an experience while visiting floating (fishing?) cabins in Mississippi. There was a crows nest atop the cabins which he used for a little naked eye astronomy during the early morning hours. He observed and reported that the Milky Way is still up in the sky. Making a spectacular sight from a dark sky location.

We discussed news reports of the brightest ever observed supernova. Which was detected by professional observatories last year. While this event is considered to have had the brightest absolute magnitude ever recorded it was never bright enough to see in amateur telescopes. There was also some discussion of the ramifications of this event for the science of astronomy.



► The next meeting of the Cape Fear Astronomical Society is July 1 starting at 7:00 pm. The meeting will be held at Hugh MacRae Park shelter #2 near the large kids play set. After the meeting the club will adjourn to the Unitarian Universalist Fellowship Church. See below.

► Rich Williams has graciously made arrangements with his church, Unitarian Universalist Fellowship Church, to provide CFAS a meeting location on Sunday evenings. The cost will be a modest donation of \$10 - \$15 per meeting. The church is located on Lake Ave. across from Roland Grise Middle School. The main meeting room is roughly the same size as the auditorium in Morton hall, it seats 150. There is a large white wall up front for presentations and movies. Thanks Rich.

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### Event Calendar for July 2007

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July 1	Venus passes 0.8° south of Saturn, 9 pm
<b>July 1</b>	<b>CFAS July Meeting 7:00 pm</b>
July 4	Independence Day
July 6	Earth is at aphelion (94.5 million miles) 8 pm
July 7	Last quarter Moon, 12:45 pm
<b>July 7/8</b>	<b>CFAS Group Viewing Sessions</b>
July 9	Moon at perigee, 1:07 pm, 228,992 miles
July 12	Venus is at greatest brilliancy (-4.7) 10 am
<b>July 13/14</b>	<b>CFAS Group Viewing Sessions</b>
July 14	New Moon, 8:04 am
July 16	Moon passes 0.04° south of Saturn, 7 pm
July 22	First quarter Moon, 2:29 am Moon at apogee, 4:43 am, 251,127 miles
July 28	Southern Delta Aquarid meteor shower peaks
July 29	Full Moon, 8:48 pm

All times are EDT unless otherwise noted



News from Our Sister  
Society Down Under  
Astronomical Society of Albury  
- Wodonga

For the latest news from down under, check out our sister society's web site at [www.asaw.org.au](http://www.asaw.org.au).

## Astronomical History During the Month of July

Date	Milestone
July 4, 1997	Landing of NASA's Mars Pathfinder in Ares Vallis
July 5, 1687	Publication of Isaac Newton's masterwork Principia
July 10, 1997	Flyby of comet Grigg-Skjellerup by the European space probe Giotto
July 22, 1972	Landing on Venus by Soviet Venera 8, second spacecraft to return data from the planet's surface

Planets in July 2007						
Planet	July	Elong.	Mag.	Dia.	Illum.	Dist.
Mercury	1 <sup>st</sup>	6° Mo	+5.3	11.8"	1%	0.568
	11 <sup>th</sup>	16° Mo	+2.0	10.0"	14%	0.672
	21 <sup>st</sup>	20° Mo	+0.1	7.7"	39%	0.871
Venus	31 <sup>st</sup>	16° Mo	-0.9	6.0"	72%	1.114
	1 <sup>st</sup>	43° Ev	-4.6	31.2"	36%	0.534
	11 <sup>th</sup>	40° Ev	-4.7	36.4"	28%	0.459
Mars	21 <sup>st</sup>	34° Ev	-4.7	42.7"	19%	0.391
	31 <sup>st</sup>	26° Ev	-4.5	49.8"	10%	0.335
	1 <sup>st</sup>	64° Mo	+0.7	6.3"	88%	1.479
Jupiter	16 <sup>th</sup>	68° Mo	+0.6	6.7"	87%	1.405
	31 <sup>st</sup>	72° Mo	+0.5	7.1"	86%	1.328
	1 <sup>st</sup>	153° Ev	-2.5	45.0"	100%	4.385
Saturn	31 <sup>st</sup>	123° Ev	-2.4	42.1"	99%	4.685
	1 <sup>st</sup>	44° Ev	+0.6	16.7"	100%	9.930
Uranus	31 <sup>st</sup>	18° Ev	+0.6	16.3"	100%	10.185
	16 <sup>th</sup>	125° Mo	+5.8	3.5"	100%	19.497
Neptune	16 <sup>th</sup>	152° Mo	+7.8	2.3"	100%	29.147
Pluto	16 <sup>th</sup>	153° Mo	+13.9	0.1"	100%	30.405

Elong. – elongation from the Sun: morning (Mo) and evening (Ev)  
Dist. – distance from Earth in astronomical units

### Galaxy Evolution Explorer Spies Band of Stars

June 20, 2007 (www.jpl.nasa.gov)

The Galaxy Evolution Explorer's ultraviolet eyes have captured a globular star cluster, called NGC 362, in our own Milky Way galaxy. In this new image, the cluster appears next to stars from a more distant neighboring galaxy, known as the Small Magellanic Cloud.

"This image is so interesting because it allows a study of the final stages of evolution of low-mass stars in NGC 362, as well as the history of star formation in the Small Magellanic Cloud," said Ricardo Schiavon of the University of Virginia, Charlottesville, Va.

Globular clusters are densely packed bunches of old stars scattered in galaxies throughout the universe. NGC 362, located 30,000 light-years away, can be spotted as the dense collection of mostly yellow-tinted stars surrounding a large white-yellow spot toward the top-right of this image. The white spot is actually the core of the cluster, which is made up of stars so closely packed together that the Galaxy Evolution Explorer cannot see them individually.

The light blue dots surrounding the cluster core are called extreme horizontal branch stars. These stars used to be very similar to our sun and are nearing the end of their lives. They are very hot, with temperatures reaching up to about four times that

of the surface of our sun (25,000 Kelvin or 45,500 degrees Fahrenheit).

A star like our sun spends most of its life fusing hydrogen atoms in its core into helium. When the star runs out of hydrogen in its core, its outer envelope will expand. The star then becomes a red giant, which burns hydrogen in a shell surrounding its inner core. Throughout its life as a red giant, the star loses a lot of mass, then begins to burn helium at its core. Some stars will have lost so much mass at the end of this process, up to 85 percent of their envelopes, that most of the envelope is gone. What is left is a very hot ultraviolet-bright core, or extreme horizontal branch star.

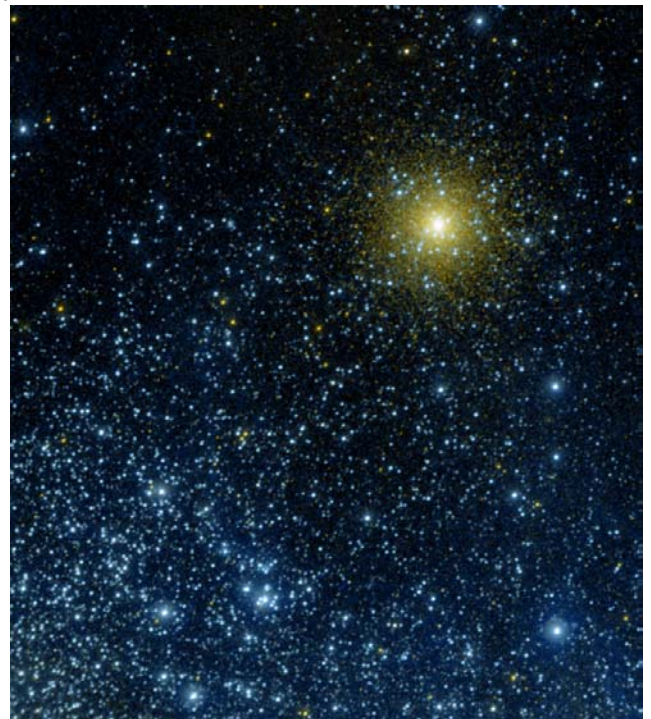
Blue dots scattered throughout the image are hot, young stars in the Small Magellanic Cloud, a satellite galaxy of the Milky Way located approximately 200,000 light-years away. The stars in this galaxy are much brighter intrinsically than extreme horizontal branch stars, but they appear just as bright because they are farther away. The blue stars in the Small Magellanic Cloud are only about a few tens of millions of years old, much younger than the approximately 10-million-year-old stars in NGC 362.

Because NGC 362 sits on the northern edge of the Small Magellanic Cloud galaxy, the blue stars are denser toward the south, or bottom, of the image.

Some of the yellow spots in this image are stars in the Milky Way galaxy that are along this line of sight. Astronomers believe that some of the other spots, particularly those closer to NGC 362, might actually be a relatively ultraviolet-dim family of stars called "blue stragglers." These stars are formed from collisions or close encounters between two closely orbiting stars in a globular cluster.

"This observation could only be done with the Galaxy Evolution Explorer because it is the only ultraviolet imager available to the astronomical community with such a large field of view," said Schiavon.

This image is a false-color composite, where light detected by the Galaxy Evolution Explorer's far-ultraviolet detector is colored blue, and light from the telescope's near-ultraviolet detector is red.



Globular star cluster NGC 362, in a false-color image from NASA's Galaxy Evolution Explorer. Image credit: NASA/JPL-Caltech/Univ. of Virginia

# Sudoku 12, 62, 152, 342, 532, 12

More Sudoku from easy to nearly impossible.

Complete the grid so every row, column and 3 x 3 box contains every digit from 1 to 9 inclusively. Stars indicate level of difficulty. Answers on page 7.

6		7		3	9	1		
		2	8		6			3
3	9	1		5			6	8
7	1	5	6	8				
				7	3	5	2	1
9	7			4		8	1	2
1			9		8	3		
		8	1	2		9		6

★★★★☆

		8		1				
		9	7			1	3	
1						4		9
9	3		8					
	6		2		7		8	
					4		7	1
2		3						6
	8	4			6	7		
				9		2		

★★★★☆

2	9			1			4	
		7		5	2		6	
6					3	7		
					5			9
		4		8		3		
5			6					
		2	5					4
	1		3	2		5		
	3			6			2	7

★★★★☆

							8	
1		9		7				
4					3		7	1
	7	2			4			5
			3		6			
6			7			2	4	
7	5		4					3
				1		8		4
	8							

★★★★☆

2		9			7	6		
3	6			2				
	5	7	4		6			
	7	5	3					
4								3
					9	7	4	
			1		5	3	8	
				9			1	5
		8	7			2		6

★★★★★

**Supper Sudoku.** Complete the grid so every row, column and 4 x 4 box contains every digit from 0 to 9 and letters from A to F inclusively. Good luck!

C			E	2		8	A	3	1	D				
3	D					B		E		6	0	8		7
8	A	0	2			9	E		B			D		6
			6	0	D			A		2		E	1	9
	4		8		9	A		2	5	7	6			C
	B					C			0		E			6
F		C		6								1		E
		6			2		4				3		8	F
6	E	7		1			B				2		F	D
9		D	0		E		6	1			B			3
2	F	B		8					E	3		7		
					7		0	D	9	A	8		B	E
	6			7	A		3	0			F	2		
		A	F			E	5	4	2			3		0
		5	1		F			9	3	E	A	B		4
	2			C			1	7		B		F		

Solutions:

6	8	7	2	3	9	1	5	4
4	5	2	8	1	6	7	9	3
3	9	1	7	5	4	2	6	8
7	1	5	6	8	2	4	3	9
2	4	3	5	9	1	6	8	7
8	6	9	4	7	3	5	2	1
9	7	6	3	4	5	8	1	2
1	2	4	9	6	8	3	7	5
5	3	8	1	2	7	9	4	6

☆☆☆☆☆

3	4	8	6	1	9	5	2	7
6	5	9	7	4	2	1	3	8
1	7	2	5	8	3	4	6	9
9	3	7	8	5	1	6	4	2
4	6	1	2	3	7	9	8	5
8	2	5	9	6	4	3	7	1
2	9	3	4	7	5	8	1	6
5	8	4	1	2	6	7	9	3
7	1	6	3	9	8	2	5	4

☆☆☆☆☆

2	9	3	7	1	6	8	4	5
1	4	7	8	5	2	9	6	3
6	5	8	9	4	3	7	1	2
3	6	1	2	7	5	4	8	9
7	2	4	1	8	9	3	5	6
5	8	9	6	3	4	2	7	1
8	7	2	5	9	1	6	3	4
4	1	6	3	2	7	5	9	8
9	3	5	4	6	8	1	2	7

☆☆☆☆☆

5	3	7	2	4	1	9	8	6
1	6	9	8	7	5	4	3	2
4	2	8	9	6	3	5	7	1
8	7	2	1	9	4	3	6	5
9	4	5	3	2	6	7	1	8
6	1	3	7	5	8	2	4	9
7	5	1	4	8	2	6	9	3
3	9	6	5	1	7	8	2	4
2	8	4	6	3	9	1	5	7

☆☆☆☆☆

2	4	9	5	1	7	6	3	8
3	6	1	9	2	8	5	7	4
8	5	7	4	3	6	1	2	9
1	7	5	3	8	4	9	6	2
4	9	2	6	7	1	8	5	3
6	8	3	2	5	9	7	4	1
9	2	4	1	6	5	3	8	7
7	3	6	8	9	2	4	1	5
5	1	8	7	4	3	2	9	6

☆☆☆☆☆

C	7	F	E	2	6	8	A	3	1	D	9	5	4	B	0
3	D	1	9	5	4	B	C	E	F	6	0	8	A	7	2
8	A	0	2	F	1	9	E	5	B	4	7	D	3	C	6
B	5	4	6	0	D	3	7	A	8	2	C	E	1	9	F
1	4	E	8	B	9	A	F	2	5	7	6	0	D	3	C
A	B	2	D	3	5	C	8	F	0	1	E	4	7	6	9
F	3	C	5	6	0	7	D	8	A	9	4	1	2	E	B
0	9	6	7	E	2	1	4	B	D	C	3	A	8	F	5
6	E	7	A	1	3	5	B	C	4	0	2	9	F	D	8
9	8	D	0	A	E	2	6	1	7	F	B	C	5	4	3
2	F	B	4	8	C	D	9	6	E	3	5	7	0	A	1
5	1	3	C	4	7	F	0	D	9	A	8	6	B	3	E
E	6	8	B	7	A	4	3	0	C	5	F	2	9	1	D
D	C	A	F	9	B	E	5	4	2	8	1	3	6	0	7
7	0	5	1	D	F	6	2	9	3	E	A	B	C	8	4
4	2	9	3	C	8	0	1	7	6	B	D	F	E	5	A

*Meetings of the CFAS are held on the first Sunday of  
The month (if holiday weekend or special event, second Sunday)*

*at  
7:00pm – To Be Determined*

**Group Viewing Sessions** 5194

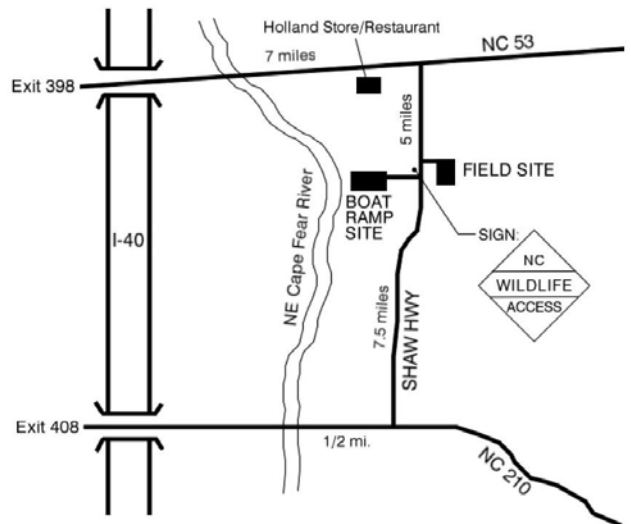
Call Ron Hawes at 762-1033 or check our email list to confirm a formal viewing session. Listed below are moonless nights so you can schedule a good viewing. All group viewing sessions will be at the Holly Shelter boat ramp site, unless otherwise specified. Time: Dusk until ?

Friday, July 7      Saturday, July 8

Friday, July 13     Saturday, July 14

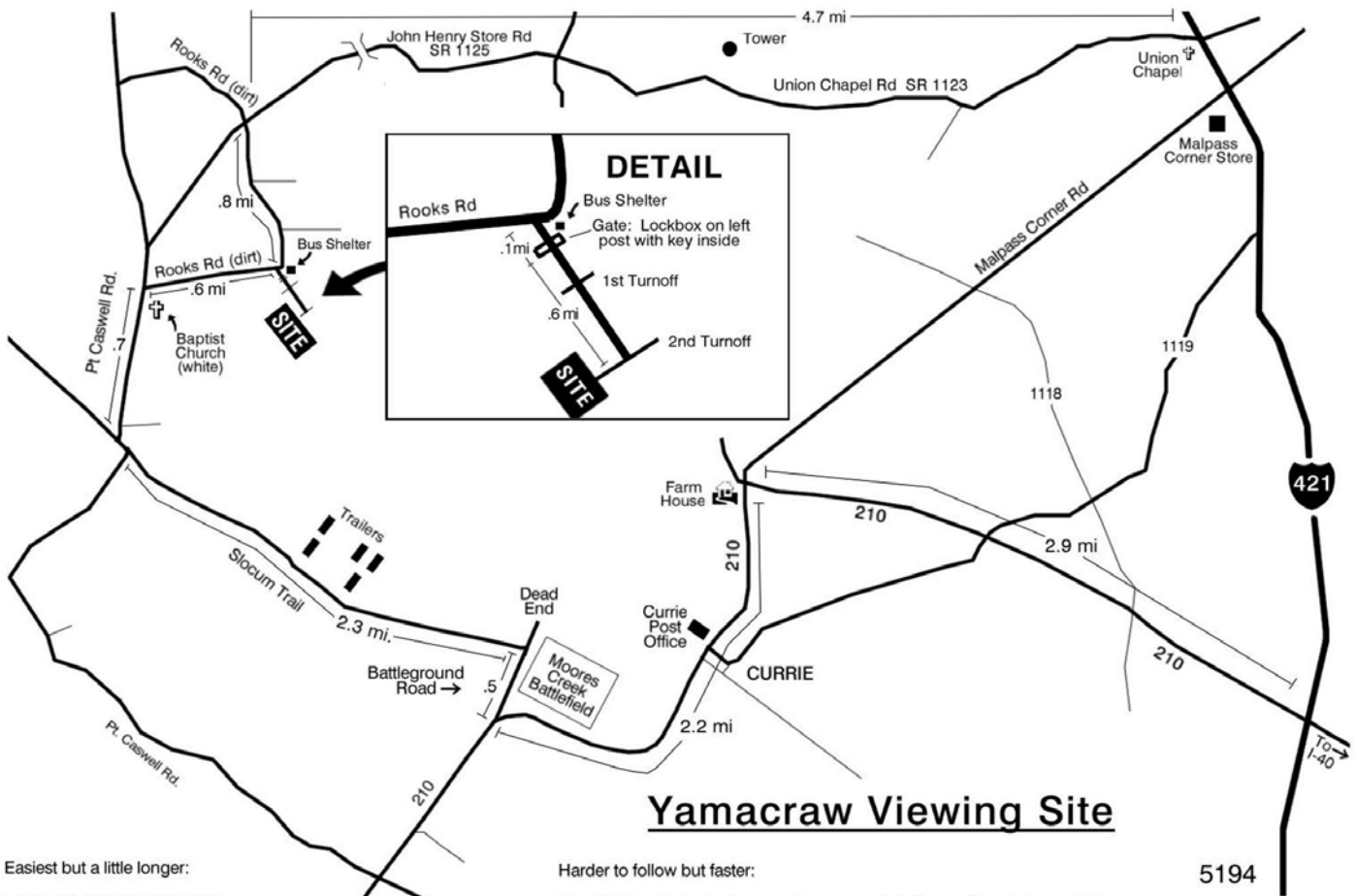
*Please be cautious of unusual wildlife behavior while observing. A golf club or stick could be useful to keep nearby.*

**Holly Shelter Viewing Sites**



Field Site Gate Open:  
September 1 - February 29 and April 7 - May 14.

Please have your Holly Shelter Permit with you at the site.



**Yamacraw Viewing Site**

Easiest but a little longer:

Travel 421 north to truck stop.  
Go approx. 20.5 miles and turn left onto Union Chapel Road.  
Follow for 4.7 miles (becomes John Henry Store Road) and take left onto Rooks Road (dirt).  
Follow Rooks Road .8 miles around curve, pass bus shelter and take left onto our site's road.  
Travel .1 mile, unlock/relock gate, travel .6 miles, take 2nd right.

Harder to follow but faster:

Travel 421 north to truck stop. Go approx. 17 miles and turn left onto 210.  
Follow 210 for 2.9 miles to intersection (stop sign and big white farm house), turn left onto 210 W.  
Follow 210 W past Currie Post Office and Battlefield, turn right onto Battleground Rd.  
Follow Battleground Rd .5 miles, take sharp left onto Slocum Rd, follow for 2.3 miles.  
Take a right onto Pt. Caswell Rd, follow .7 miles past Church, take right onto Rooks Road (dirt).  
Follow Rooks Rd .6 miles, turn right onto our site's road. (If you see the bus shelter, you've gone too far.)  
Travel .1 miles, unlock/relock gate, travel .6 miles, take the 2nd road on the right to our site.

5194